

IN THE UNITED STATES DISTRICT COURT
FOR THE WESTERN DISTRICT OF TEXAS
WACO DIVISION

IGT and IGT CANADA SOLUTIONS ULC,)	
)	
Plaintiffs,)	
)	C.A. No. 6:21-CV-00331-ADA
v.)	
)	JURY TRIAL DEMANDED
ZYNGA INC.,)	
)	
Defendant.)	

SECOND AMENDED COMPLAINT FOR PATENT INFRINGEMENT

Plaintiffs IGT (“IGT US”) and IGT Canada Solutions ULC (“IGT Canada”) (together, “IGT”), for their Second Amended Complaint for Patent Infringement against Defendant Zynga Inc. (“Zynga”), allege the following:

NATURE OF THE ACTION

1. This is an action for infringement of United States Patent Nos. 8,708,791; 9,159,189; 7,168,089; 7,303,473; 8,795,064; and 8,266,212 (collectively, the “Asserted Patents”), arising under the patent laws of the United States, Title 35 of the United States Code, including § 271 and §§ 281–285.

THE PARTIES

2. Plaintiff IGT US is a corporation organized and existing under the laws of the State of Nevada, having a place of business located at 6355 South Buffalo Drive, Las Vegas, Nevada 89113.

3. Plaintiff IGT Canada is a Canadian unlimited liability company organized and existing under the laws of Nova Scotia, having a place of business located at 328 Urquhart Avenue, Moncton, New Brunswick E1H 2R6, Canada. IGT US and IGT Canada are subsidiaries of

International Game Technology PLC, which is listed on the New York Stock Exchange under the trading symbol “IGT.” IGT is a world leader in gaming entertainment and a leading supplier of casino and lottery machines.

4. Upon information and belief, Defendant Zynga is a corporation organized and existing under the laws of the State of Delaware, having a place of business located at 12357-A, Riata Trace Pkwy #200, Austin, Texas 78727.

JURISDICTION AND VENUE

5. This is a civil action for patent infringement arising under the patent laws of the United States, Title 35 of the United States Code.

6. This Court has subject matter jurisdiction under 28 U.S.C. §§ 1331 and 1338(a).

7. This Court has personal jurisdiction over Zynga because Zynga has a place of business in this District, has committed acts within this District giving rise to this action, and has established minimum contacts with this forum such that the exercise of jurisdiction over Zynga would not offend traditional notions of fair play and substantial justice. Zynga has committed and continues to commit acts of infringement in this District by, among other things, developing, making, testing, using, and providing instrumentalities that infringe one or more claims of the Asserted Patents.

8. Venue is proper in this judicial district under 28 U.S.C. § 1400(b). For instance, Zynga has a regular and established place of business in at least Austin, Texas, and has committed acts of infringement in this District and Division.

FACTUAL BACKGROUND

I. IGT and Remote Gaming

9. With more than 12,000 employees worldwide, IGT (NYSE: IGT) enables players to experience their favorite games across various market channels and regulated segments, from

gaming machines and lotteries to digital and social platforms. IGT's gaming solutions anticipate and meet consumer demands—wherever they choose to play—by leveraging IGT's portfolio of premium and proprietary content, substantial investments in innovation, in-depth customer intelligence, significant operational expertise, and novel, industry-leading technologies. IGT has a well-established presence locally and internationally, including relationships with governments and regulators in more than 100 countries around the world. For more than thirty years, IGT has created and driven value by adhering to the highest standards of service, integrity, and responsibility in the gaming industry.

10. In addition to IGT's established brick-and-mortar casino and lottery operations, IGT is a world leader and innovator in the markets for remote gaming and social casinos. IGT offers a complete portfolio of award-winning digital gaming products, platforms, and services. With substantial investments in research and development, IGT's solutions are flexible, scalable, and backed by a market-leading technology investment program to ensure players will always catch the next wave of innovation. For example, IGT's Remote Game Server ("RGS") is home to over 100 themed games, including some of the industry's most celebrated titles, such as Cleopatra®, Golden Goddess®, and Wheel of Fortune®. In fact, in May 2017, IGT announced that the RGS would also house the leading online gaming site PokerStars Casino. The RGS contains a vast library of new and proven games and features that ignite player excitement and engagement in markets around the world.

11. IGT's products and services include, for example, its PlayAnywhere, PlaySports, PlayLottery, PlayPlatform, and PlayService offerings, as advertised on its website:

For more than 30 years, IGT has been ahead of the curve, delivering the top-performing, must-have games that continually push boundaries.

PlayAnywhere

Poker, Casino, Bingo, and Instant Wins; we've got every game covered for both desktop and mobile devices. Browse through our library to find the right games for you and your players.

[Learn More](#)



PlaySports

Winners are choosing IGT PlaySports, the U.S. market leader for sports betting. Ready for deployment in all states that allow sports betting, our innovative platform and retail and mobile solutions can meet all of your sports betting needs and get you across the finish line quickly.

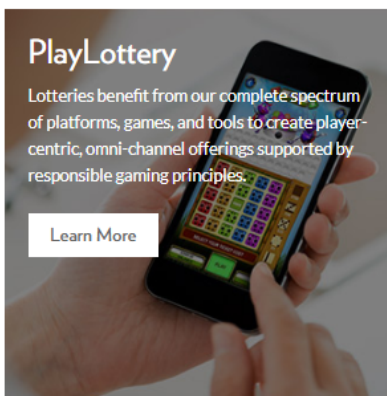
[Learn More](#)



PlayLottery

Lotteries benefit from our complete spectrum of platforms, games, and tools to create player-centric, omni-channel offerings supported by responsible gaming principles.

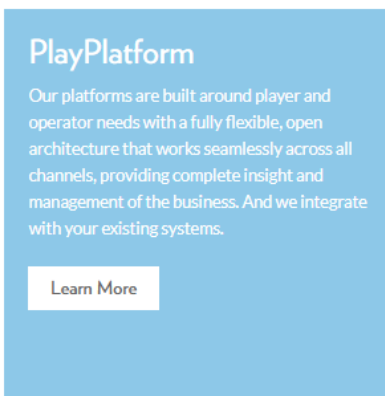
[Learn More](#)



PlayPlatform

Our platforms are built around player and operator needs with a fully flexible, open architecture that works seamlessly across all channels, providing complete insight and management of the business. And we integrate with your existing systems.

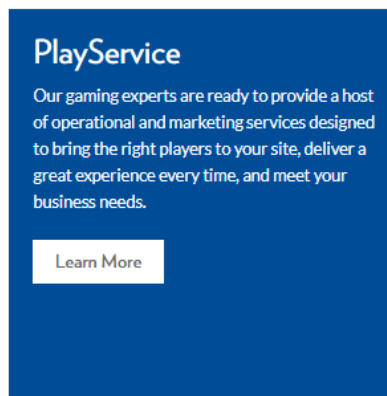
[Learn More](#)



PlayService

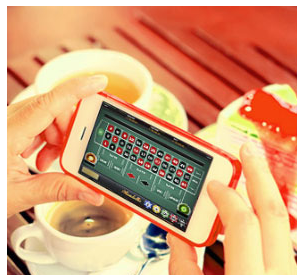
Our gaming experts are ready to provide a host of operational and marketing services designed to bring the right players to your site, deliver a great experience every time, and meet your business needs.

[Learn More](#)



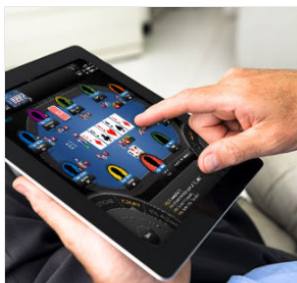
<https://www.igt.com/products-and-services/playdigital> (last visited May 3, 2021).

12. IGT's PlayAnywhere offerings further include, for example, PlayCasino, PlayPoker, PlayBingo, and PlayInstants:



PlayCasino

Rocking, top-performing titles.



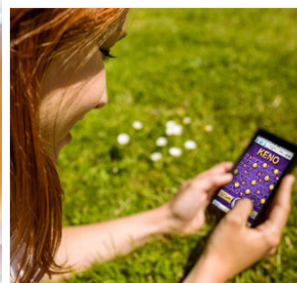
PlayPoker

An unbeatable hand. No bluff.



PlayBingo

A classic game, a modern player.



PlayInstants

Fast-paced, entertaining action.

<https://www.igt.com/products-and-services/playdigital/playanywhere> (last visited May 3, 2021).

13. To protect these and other valuable and proprietary technologies, IGT has heavily invested in acquiring and maintaining its intellectual property, including cultivating a portfolio of approximately 3,400 United States patents and pending applications, and hundreds more in Europe, Australia, and Asia.

II. Zynga and the Accused Instrumentalities

14. Zynga labels itself “a leading developer of the world’s most popular social games that are played by millions of people around the world each day.” <https://www.zynga.com/> (last visited May 3, 2021). According to Zynga, “more than one billion people” have played its games “across the Web and mobile” to date. *Id.* Upon information and belief, Zynga has made, used, sold, or offered to sell in the United States, or imported into the United States, infringing instrumentalities, including servers and other hardware and software enabling players to play its various game offerings (“Accused Instrumentalities”), including, but not limited to, Zynga Poker, The Wizard of Oz, Game of Thrones, Mustang Money, Hit It Rich, other spin slot machine games, Words With Friends, Farmville, Loyalty Lounge, and other game offerings.

III. The Asserted Patents

A. The ’791 Patent Recites a Specific, Technological Improvement, and Recites Inventive Concepts That Were Not Well Understood, Routine, or Conventional at the Time.

15. U.S. Patent No. 8,708,791 (“the ’791 Patent”) is entitled “Detecting and preventing bots and cheating in online gaming,” and is attached hereto as Exhibit A. ’791 Patent at [54]. IGT US is the owner of all rights, title, and interest in the ’791 Patent, which issued on April 29, 2014. *Id.* at [73], [45]. The application that led to the ’791 Patent was filed on December 20, 2012, is a divisional of application No. 11/480,713, and claims priority back to at least July 3, 2006. *Id.* at [22], [62]. The ’791 Patent is not directed to an abstract idea, but rather claims a technical solution necessarily rooted in computer technology in order to overcome a problem specifically arising in

the realm of prior electronic gaming systems. Moreover, the claim limitations involve more than the performance of well-understood, routine, and conventional activities previously known to the industry.

16. The '791 Patent claims are directed to patent-eligible, non-abstract subject matter. In particular, the '791 Patent is directed to methods and devices for detecting and preventing cheating in online gaming resulting from technological problems attributable to the Internet. The Patent explains that one criticism of online gaming was the perception that it very often involves cheating. As described, prior art methods and devices were inadequate because some players could use “bots” or similar software that could apply perfect or nearly perfect strategies during game play and also allow for unfair collaboration between players. Players could also use multiple devices, such as a first personal computer for participation in online gaming, and a bot and remote control software may be running on a second computer, for cheating. The bot on the second computer could control games played on the first computer, such that a human will appear to be participating in the online gaming sessions and could even interact with other players or provide other human responses that would be difficult to automate. '791 Patent at 1:25–51. As the Patent notes, there was a need to overcome these and other technological problems in the prior art such as those arising from bots, with new technical solutions for detecting and preventing cheating in wagering games conducted via the Internet. *Id.* at 1:55–58.

17. The claims of the '791 Patent describe and claim narrowly-tailored and specific concepts that were not well-understood, routine, or conventional at the time of its filing for overcoming these and other technological problems. The claims address, among other things, such technical problems in prior gaming systems by providing specifically implemented technical solutions. For example, claim 1 recites:

1. A gaming method in a gaming system having a plurality of host devices and at least one game server, the method comprising:

providing, by plurality of host devices and the at least one game server, an online wagering game;

presenting, by plurality of host devices, game data required for participation in the online wagering game in a format that requires a human interface or the use of pattern recognition methods;

gathering, by the plurality of host devices, game play data while players are using the plurality of host devices to play Internet wagering games;

analyzing, by the at least one game server, the game play data to determine individual players' typical gaming styles and times of deviation from the typical gaming styles; and

comparing, by the at least one game server, times of deviation from players' typical gaming styles to determine instances of probable collusion between players.

Id. at 17:2–19. Claim 1 targets a method-based solution that uses a plurality of host devices and at least one game server for providing an online wagering game. *Id.* at 17:2–6. The method involves presenting “game data” required for participation by host devices in a format that requires a human interface or the use of pattern recognition methods, and gathering game play data while players are using the host devices to play Internet wagering games. *Id.* at 17:7–12. The game server then analyzes the game play data to determine players' typical gaming styles and times of deviation from the typical gaming styles, and compares times of deviation from their typical gaming styles to determine instances of probable collusion between players. *Id.* at 17:13–19.

18. The specification further demonstrates that the inventors developed a specific technological solution to solve technological problems in the prior art. *Id.* at 4:6–16:67. The specification describes, with reference to FIG. 1, for instance, game provider 105 that provides Internet wagering games via one or more game servers 110, 115, 120 and 125. *Id.* at 4:29–31. After a player's eligibility is determined, gaming software may be provided, by downloading the

software from a server of game provider 105 to a player's host device. *Id.* at 9:11–14. As a first countermeasure against the use of bots, the gaming software may provide gaming information in formats that are difficult for a bot to interpret, including using pattern recognition software, but which preferably are easy for humans to interpret. *Id.* at 5:45–49. For example, some implementations present playing cards with distorted letters and numbers or that are rotated, misaligned, or randomly oriented; some provide GUIs whose layouts change depending on whether bot play is suspected. *Id.* at 5:50–7:37.

19. After a game begins, players' gaming data is collected by the host device and analyzed by the game server, including tracking and analyzing a player's response time, win frequency, win amount, time spent playing, game play decisions, and wagering decisions, over a period of time. Some implementations involve calculating a player's characteristic percentage of optimal decision-making, a player's characteristic range of deviation from this characteristic percentage, a player's characteristic range of deviation from perfect game play, or similar values. *Id.* at 9:18–44. If a player is suddenly playing at a level quite different from his or her historical range, this indicates possible use of a bot or collusion. *Id.* at 9:45–58. For example, consistently perfect or nearly-perfect game play suggests that a player is actually a bot (or is using a bot or similar software). If the player also has a consistently small response time and can play for long time periods without making an error, the player is even more likely to be a bot. *Id.* at 10:14–29. Likewise, the inventive system may determine whether more than one of the players has been in the same location during times that the player is winning, as one indicia of collusion. *Id.* at 15:6–13.

20. As a game progresses, the inventive system and method involves determining, by a central computing device or a player's host device, whether indicia of cheating have been

detected. If no indicia of cheating have been detected, play may continue as before. However, if an indicium of cheating has been detected, cheating countermeasures may be invoked. For example, a display may be used that is believed to be more difficult for bots to interpret, the display type may be changed more frequently; a player may be prevented from further play, assessed a monetary penalty, or blacklisted; or a player may be required to respond correctly to a spoken question or command. *Id.* at 11:15–39.

21. The improvements recited by the claims have no pre-electronic gaming analog. Indeed, the technical problems experienced by prior art systems did not exist prior to electronic gaming. *E.g.*, '791 Patent at 1:31–51 (describing the cheating specific to online wagering games including the use of “bots” combined with unfair collaboration and the use of multiple online devices by one person). Moreover, the claimed technologies of the '791 Patent cannot be performed as mental steps by a human, nor by a human using a pen and paper. *E.g.*, *id.* at 14:64–15:13, 8:51–55 (describing the collection and analysis of “opponent gaming data” including host device location data and game play data coinciding in time); *id.* at 17:2–19 (claiming host device and gaming server).

22. As addressed above, the '791 Patent claims are directed to inventive concepts that recite significantly more than any patent-ineligible, abstract idea. Nor does the claimed invention represent the mere application of a generic computer to any well-known method of organizing human behavior. Online gaming introduces unique challenges such as, for example, opportunities for collusion among players through the use of automated bots and and/or multiple user devices. The claimed invention of the '791 Patent provides a unique technical solution for detecting such behavior.

23. The dependent claims further recite unconventional technological advancements

over the prior art. For example, claims 2–4 and 6, 7, and 9 recite specific types of game data (e.g., playing card data) and formats of game data (e.g., varying positions of playing card symbols on the cards) that further a goal of, for example, providing countermeasures against prior-art bots that could be used for cheating. *Id.* at 17:20–29; *id.* at 18:1–8; *id.* at 13–15. As another example, dependent claim 11, which depends from claim 1, further recites the unconventional step of providing wagering data for participation in the online wagering game as “images of wager tokens,” as another countermeasure. *Id.* at 18:20–22. Dependent claim 13, which depends from claim 1, recites that the gaming method also involves the game server determining locations of host devices and whether some of the instances of probably collusion involve multiple host devices at one location,” which furthers a goal of detecting indicia of possible collusion for investigation. *Id.* at 18:25–30.

B. The ’189 Patent Recites a Specific, Technological Improvement, and Recites Inventive Concepts That Were Not Well Understood, Routine, or Conventional at the Time.

24. U.S. Patent No. 9,159,189 (“the ’189 Patent”) is entitled “Mobile gaming device carrying out uninterrupted game despite communications link disruption,” and is attached hereto as Exhibit B. ’189 Patent at [54]. IGT Canada is the owner of all rights, title, and interest in the ’189 Patent, which issued on October 13, 2015. *Id.* at [45]. The ’189 Patent was filed on April 11, 2013, and is a continuation-in-part of two patent applications, all three applications claiming priority to a provisional application filed on January 13, 2012. *Id.* at [63], [60]. The ’189 Patent is not directed to an abstract idea, but rather, claims a technical solution necessarily rooted in computer technology in order to overcome a problem specifically arising in the realm of prior electronic gaming systems. Moreover, the claim limitations involve more than the performance of well-understood, routine, and conventional activities previously known to the industry.

25. The '189 Patent claims are directed to patent-eligible, non-abstract subject matter. In particular, at the time of the claimed invention, game participants could use a wireless handheld device to remotely play an otherwise conventional gaming machine in a casino. The gaming machine would perform all of the processing during gameplay. '189 patent at 1:25–36. Since the player may walk around with the tablet, however, various issues arise, such as what actions to be taken if the communications link is broken during a game or if a maximum time between games is exceeded. In those cases, and as described in the prior art, the game would typically be terminated, which could prevent players from receiving game outcomes and cause them to become “confused and agitated.” *Id.* at 1:47–2:15 (discussing U.S. Patent No. 6,846,238 to Wells). Thus, for example, “an improved technique for dealing with a communications link being broken in the middle of a game” was needed. The disclosed invention overcame this and other technological problems. Specifically, if a communications link is broken during a game, a mobile gaming device may extend the game animation (such as a spinning reel) beyond a typical time for the game until the link is reestablished, rather than terminating or stopping the display of the game. *Id.* at 4:47–5:4.

26. The claims of the '189 Patent describe and claim narrowly-tailored and specific concepts that were not well-understood, routine, or conventional at the time of its filing for overcoming the technological problems of the prior. The claims address, among other things, such technical problems in prior gaming systems by providing specifically implemented technical solutions. For example, claim 1 recites:

1. A remote gaming method comprising:

establishing a wireless communications link between a mobile gaming device, operated by a player, and a stationary gaming terminal that carries out a gaming program;

receiving player control signals by the gaming terminal from the mobile gaming device to initiate a game;

displaying game animation on the mobile gaming device for the game conveying to the player that the game is presently occurring;

carrying out the game by the gaming terminal, including determining a final outcome of the game and any award for the outcome;

transmitting signals from the gaming terminal to the mobile gaming device identifying the final outcome of the game and the award;

stopping the game animation for the game and displaying, by the mobile gaming device, the final outcome of the game and the award;

in the event of a communications link failure between the mobile gaming device and the gaming terminal during the game, prior to receiving the signals by the mobile gaming device identifying the final outcome of the game and the award but after the game animation for the game has begun, performing the method comprising:

extending the game animation for the game by the mobile gaming device during the communications link failure beyond a typical time for the game until the communications link has been re-established; and

once the communication link has been re-established, transmitting the signals to the mobile gaming device identifying the final outcome of the game and the award, stopping the game animation for the game, and displaying, by the mobile gaming device, the final outcome of the game and the award, such that the game perceived by the player is not interrupted during the communications link failure.

Id. at 23:23–59. Claim 1 targets a method-based solution that extends the game animation for the game by the mobile gaming device during the communications link failure beyond a typical time for the game until the communications link has been re-established. *Id.* at 23:48–51. More specifically, the claims improve user experience with remote games that rely on communications link to operate by extending game animations during communications link failures to present an uninterrupted gaming experience. *See, e.g., id.* at 4:44–46 (“Therefore, the un-interrupted display of the reels spinning and stopping is very important to the player.”); *see also id.* at 1:63–2:2.

27. The specification further demonstrates that the inventors developed a specific technological solution to solve the technological problems. *See* '189 Patent at 3:31–22:67. It describes the inventive devices used in the invention with reference to FIG. 3, including specially programmed reel spin routine files 69 and communications link detector 82. *See also id.* at 9:8–39. It also describes the inventive method with reference to FIG. 4, for instance. The gaming machine continually senses whether the communications link is still up by, for example, receiving periodic signals from the tablet or receiving acknowledgements from the tablet that a command has been received. *Id.* at 10:56–60. The communications link may be broken by the player moving out of the allowable range, interference, or other cause, which may prevent the user from receiving the game's outcome. *Id.* at 10:60–62; *see also id.* at 5:1–4. To overcome this drawback, specialized programming causes the animated reels to keep spinning, so the player believes the game is still occurring. *Id.* at 11:17–24. The gaming machine re-transmits the final outcome and award and, assuming the player has re-entered the allowable range within the allowable “reconnect timeout” period, the tablet receives the final result and stops the reels at their final positions. *Id.* at 11:27–31. Thus, the player perceives the continuous spinning of the reels as just an extended game rather than an interruption in the game. *Id.* at 11:31–33.

28. The improvements recited by the claims have no pre-electronic gaming analog. Indeed, the technical problems experienced by the prior art did not exist prior to electronic gaming. *See, e.g., id.* at 1:25–27 (describing the prior art as using a “wireless hand-held device, such as a tablet, to remotely play an otherwise *conventional gaming machine* in a casino”) (emphasis added); *see also id.* at 1:48–55 (describing issues particular to remote electronic gaming as compared to conventional casino gaming). Moreover, the claimed technological advance claimed in the '189 Patent cannot be performed as mental steps by a human, nor by a human using a pen and paper.

See, e.g., id. at 11:27–33 (describing an embodiment that requires the animated reels to continue spinning so that the player is unaware of the interruption in the communications link); *see also id.* at 4:63–67.

29. As addressed above, the '189 Patent claims are directed to inventive concepts that recite significantly more than any patent-ineligible, abstract idea. The claimed invention also represents more than the mere application of a generic computer to any well-known method of organizing human behavior. Remote electronic gaming introduces unique challenges, such as, for example, the possibility of a communications link failure between a gaming terminal and mobile gaming device, when such a communications link was unnecessary with conventional, non-remote casino games. The '189 Patent provides a novel technical solution for a remote electronic game to appear as if no communications link failure occurred.

C. The '089 Patent Recites a Specific, Technological Improvement, and Recites Inventive Concepts That Were Not Well Understood, Routine, or Conventional at the Time.

30. U.S. Patent No. 7,168,089 (“the '089 Patent”) is entitled “Secured Virtual Network In A Gaming Environment,” and is attached hereto as Exhibit C. '089 Patent at [54]. IGT US is the owner of all rights, title, and interest in the '089 Patent, which issued on January 23, 2007. *Id.* at [73], [45]. The '089 Patent was filed on April 3, 2002, and is a continuation-in-part from an application that was filed on December 7, 2000. *Id.* at [22], [63]. The '089 Patent is not directed to an abstract idea, but rather, claims a technical solution necessarily rooted in computer technology in order to overcome a problem specifically arising in the realm of prior electronic gaming systems. Moreover, the claim limitations involve more than the performance of well-understood, routine, and conventional activities previously known to the industry.

31. The '089 Patent claims are directed to patent-eligible, non-abstract subject matter. In particular, at the time of the claimed invention, the remote-gaming environment faced a

technological challenge of ensuring security and providing monitoring of gaming software sent to and loaded onto remote gaming devices. This technological problem results from the Internet and its ability to offer dispersed game-play capability in a computer-distributed environment. For example, in brick-and-mortar gaming establishments, the patent explains, gaming machines were largely standalone. '089 Patent at 1:21–49. The patent further explains that, “[a]s technology in the gaming industry progresses, more and more gaming services are being provided to gaming machines via communication networks that link groups of gaming machines to a remote computer that provides one or more gaming services.” *Id.* at 1:49–53. These groups of gaming machines were “linked to a dedicated communication network ... not accessible to the public.” *Id.* at 1:50–66. As technology progressed and the gaming industry grew, it became possible to have “gaming machines under the control of a particular entity ... distributed in many different types of establishments. Casinos, convenience stores, supermarkets, bars and boats are a few examples of establishments where gaming machines may be placed.” *Id.* at 2:21–28. These gaming machines, however, continued to communicate with “one or more database servers via one or more dedicated networks,” if connected to such a network. *Id.* at 2:45–3:5. But in instances such as a gaming machine placed at a store, “the cost of a dedicated communication network [was] not usually justified.” *Id.* at 3:16–19. Where the cost could not be justified, the gaming device was left “in a ‘stand alone’ mode” thus requiring manual maintenance and manual extraction of information for the gaming establishment, resulting in a “large route” for the operator that was “both time consuming and costly.” *Id.* at 3:20–31.

32. Additionally, for example, the patent further explains that, “for security reasons,” gaming machines were not generally allowed to communicate outside of the gaming establishment absent a dedicated network and that such a dedicated network “was not cost effective.” *Id.* at 3:40–

67. Such impediments to developing a “dedicated network” prevented “the gaming industry [from] download[ing] gaming software from one or more remote locations to a gaming machine.” *Id.* at 4:1–3. The ability to download gaming software, however, was “desirable because it may enable gaming machines to be quickly reconfigured to account for changes in popularity of various games played on the gaming machines and it may simplify software maintenance issues on the gaming machine such as gaming software updates.” *Id.* at 4:3–14. But typically such software downloads were only manually made outside of the dedicated network “for security reasons,” for example, “to prevent the source code from being obtained by individuals which might use the source code to try to find ways of cheating the gaming machine.” *Id.* at 4:11–18.

33. The claims address, among other things, such technical problems in prior gaming systems by providing specifically implemented technical solutions. For example, claim 84 recites a specific method to solve the described technological problems:

84. In a first gaming device, a method of transferring gaming software to a second gaming device, said method comprising:

receiving a gaming software transaction request from the second gaming device;

sending the gaming software transaction request to a gaming software authorization agent that approves or rejects the transfer of gaming software;

receiving an authorization message from the gaming software authorization agent wherein the authorization message includes information indicating whether the first gaming device is authorized to transfer the gaming software to the second gamma device; and

transferring the gaming software to the second gaming device;

wherein the gaming software is for at least one of a) a game of chance played on a gaming machine, b) a bonus game of chance played on a gaming machine, c) a device driver for a for a device installed on a gaming machine, d) a player tracking service on a gaming machine and e) an operating system installed on a gaming machine.

'089 Patent at 47:53–48:7. More specifically, the claims improve system security over prior electronic systems by reciting “transferring gaming software” from a first gaming device to a second device, including steps such as receiving a “gaming software transaction request” from the second device that is sent to a “gaming software authorization agent,” which approves or rejects the transfer of gaming software. *Id.* at 47:53–48:7. The method also involves receiving an “authorization message” from the agent that includes information indicating whether the first device is authorized to transfer the software to the second device, and transferring the software from the first device to the second device. The method further refers to the gaming software being for at least one of a game of chance, bonus game of chance, device driver, a player tracking service, and an operating system.

34. These technical improvements over the prior art are explicitly recited in the intrinsic record of the '089 Patent. For example, the specification further demonstrates that the inventors developed a specific technological solution to solve the described and other technological problems. *See* '089 Patent at 12:28–40:60. The specification describes the claimed technical improvements. For example, with reference to FIG. 8, for instance, the specification describes a gaming software distribution network that uses a secure network. It explains that gaming software may be transferred between various gaming devices, in the distribution network, but only after receiving authorization from a gaming software authorization agent 50. The gaming software authorization agent approves all gaming software transactions between two gaming devices in the gaming software distribution network and stores a record of the gaming software transactions. For example, when the identity of a gaming software requestor is authenticated, the agent may evaluate and validate one or more parts of the download request. The agent may determine if a requested gaming software title has been approved for downloads or transfers. The download request may

also include identification information for a gaming device that will receive the requested gaming software. The agent may compare identification information for the destination gaming device with identification information from a database of gaming devices approved for receiving gaming software. If the information in the download request is valid, the agent may generate an authorization record for the gaming software transaction and allow the software transfer; if it is not valid, the agent may generate an error message instead. As explained, the disclosed system and method therefore allow for a cost-effective, less time-consuming, and secure means of transferring software and software updates in a manner that may be easily monitored and regulated. *Id.* at 4:28–49, 17:26–31, 25:1–4.

35. The improvements recited by the claims have no pre-electronic gaming analog. Indeed, the technical problems experienced by prior art systems did not exist prior to electronic gaming. *E.g.*, '089 Patent at 4:1–24 (describing the “time consuming” process of manually loading gaming software “onto each gaming machine,” which the '089 Patent addresses in part by providing “gaming software download methods for gaming machines that allow gaming software to be transferred electronically to the gaming machines from a remote location in a secure manner that satisfied regulatory requirements”).

36. The '089 Patent claims are directed to inventive concepts that recite significantly more than any patent-ineligible, abstract idea. The '089 Patent claim limitations involve more than the performance of well-understood, routine, and conventional activities previously known to the industry. The embodiments described in the specification and provided by the claims require a specific combination of specially programmed hardware and software components, including for example, the claimed use of a “software authorization agent” that sends an “authorization message” to indicate whether a “first gaming device is authorized to transfer the gaming software

to” a “second gaming device.” *See* ’089 Patent at 43:21–23, 47:53–48:7; *see also* 9/18/2006 Notice of Allowance at 2–4. Moreover, the use of a software authorization agent that sends an authorization message via, for example, the Internet was a technical improvement over the prior art and not well-understood, routine, or conventional. *See, e.g.*, ’089 Patent at Abstract, 1:59–2:6, 3:16–4:24, 4:28–56.

37. Moreover, the ordered combination of claim elements is directed to an inventive concept and was not well-understood, routine, or conventional at the time of the invention, as recognized by the patent examiner in allowing the claims. *See* 9/18/2006 Notice of Allowance at 2–4.

38. The claimed invention does not represent the mere application of a generic computer to any well-known method of organizing human behavior. Rather, the gaming industry is highly regulated to ensure fairness given the value of money being exchanged on a daily basis. To satisfy security and regulatory requirements in a gaming environment, hardware and/or software architectures are implemented in electronic gaming machines (EGMs) that differ significantly from those of general-purpose computing devices. Additionally, EGMs operate in much more harsh environments and have restrictive fault tolerance requirements as compared to general computing devices and are built differently with this in mind.

39. Dependent claims of the ’089 Patent further recite unconventional, technological advancements over the prior art. No single claim is representative of any other. For example, dependent claim 89, which depends from claim 84, further recites unconventional technological advancements over the prior art. It recites that the gaming software transaction request comprises “access information and gaming software identification information,” which furthers a goal of, for example, providing security to allow transferring software outside of the gaming establishment.

As other examples, claims 90 and 91, which depend from claim 89, and claim 92, which depends from claim 84, provide additional requirements as to the “access information,” “gaming software identification information,” and “gaming software transaction information” that further advance and solve the described goals and technological problems. ’089 Patent at 48:27–49.

D. The ’473 Patent Recites a Specific, Technology Improvement, and Recites Inventive Concepts That Were Not Well Understood, Routine, or Conventional at the Time.

40. U.S. Patent No. 7,303,473 (“the ’473 Patent”) is entitled “Network gaming system,” and is attached hereto as Exhibit D. ’473 Patent at [54]. IGT US is the owner of all rights, title, and interest in the ’473 Patent, which was filed on February 25, 2002 and issued on December 4, 2007. *Id.* at [73], [22], [45]. The ’473 Patent is not directed to an abstract idea, but rather, claims a technical solution necessarily rooted in computer technology in order to overcome a problem specifically arising in the realm of prior electronic gaming systems. Moreover, the claim limitations involve more than the performance of well-understood, routine, and conventional activities previously known to the industry.

41. The ’473 Patent claims are directed to patent-eligible, non-abstract subject matter. Specifically, the ’473 Patent claims are directed to combatting technological challenges in the gaming industry, including, for example, the challenge of allowing players to select and remotely play games that are hosted by a gaming computer in a remote location over a network (rather than having to be physically present and directly play the game on the gaming computer itself). This technological problem results from the Internet and its ability to offer dispersed game-play capability in a computer-distributed environment. In the prior art, systems for presenting interactive information services over a network, such as games played interactively on the Internet, were known. But such systems presented the games via direct client/terminal and server/host configurations, rather than, for example, by providing an intermediary website server allowing

players to remotely select and play a plurality of games hosted by different gaming servers. The disclosed invention overcame this and other technological problems. For example, one aspect of the invention is directed to a website controller that controls the operation of a website, which includes computer program portions that transmit data messages to gaming servers and player terminals to allow players to remotely select and play games that are hosted on the gaming servers. '473 Patent at 1:8–2:7.

42. The claims of the '473 Patent describe and claim narrowly-tailored and specific concepts that were not well-understood, routine, or conventional at the time of its filing for overcoming the technological problems. The claims address, among other things, such technical problems in prior gaming systems by providing specifically implemented technical solutions. For example, claim 22 recites:

22. A website controller that controls operation of a website, said controller comprising:

a processor;

a memory operatively coupled to said processor;

a first computer program portion stored in said memory that causes data prompting a game selection to be made to be transmitted to a remote player device to allow a first game or a second game to be selected via said remote player device;

a second computer program portion stored in said memory that causes game selection data representing a game selection that is received from said remote player device to be stored in memory;

a third computer program portion stored in said memory that determines whether said data representing said game selection corresponds to said first game or said second game;

a fourth computer program portion stored in said memory that determines whether to select a first gaming computer or a second gaming computer based on said game selection received from said remote player device;

a fifth computer program portion stored in said memory that facilitates data communication between said remote player device and said first gaming computer that facilitates play of said first game if said game selection data specifies said first game; and

a sixth computer program portion stored in said memory that facilitates data communication between said remote player device and said second gaming computer that facilitates play of said second game if said game selection data specifies said second game.

Id. at 22:51–23:14. Claim 22 describes an improved system to solve the technological problems using specially programmed hardware and software components. It recites a “website controller” that controls operation of a website that includes, for example, first through sixth computer program portions that cause data prompting a game selection to be made to be transmitted to a remote player device; cause game selection data representing a game selection received from the remote player device to be stored in memory; determine whether the data representing the game selection corresponds to a first or second game; determines whether to select a first or second gaming computer based on the game selection; and facilitates data communication between the remote player device and the gaming computer that facilitates play of the game if the game selection data specifies that game.

43. These technical improvements over the prior art are explicitly recited in the intrinsic record of the ’473 Patent. For example, the specification further demonstrates that the inventors developed a specific technological solution to solve the described and other technological problems. *See* ’473 Patent at 1:55–19:11. Specifically, the specification explains that the system may be an Internet gaming system that includes a website server 14 coupled to a plurality of gaming servers 16 as well as remote player terminals 12. A player could use one of the player terminals 12 to logon to the website serviced by website server 14 to play various wagering games. The website server 14 may be programmed to allow the player to select a particular game or games from a menu. Each of the gaming servers 16 may include computer gaming software that

facilitates play of one or more of the games offered. After a game is selected, the game may be played under the control of gaming server 16 that contains the computer software associated with the selected game. All data communications necessary for play of the game may be routed through the website server 14 so that the player is unaware of the operative involvement of the gaming server 16. For example, website controller 50 shown in FIG. 2B may transmit data messages originating from the website server 14 to either gaming server 16 or one of the player terminals 12. Thus, it may appear to the player that website server 14 is handling all aspects and control actions relating to the game being played. '473 Patent at 4:41–5:46, 10:3–11:58. Additionally, for example, the specification addresses the security features of the invention. “For security purposes, the website server 14 may be designed to accept incoming data messages from authorized sources only.” *Id.* at 11:1–3. For instance, the system may determine whether an incoming data message was transmitted by an authorized source by checking the source address of the data message and only accept data messages having an authorized source address. *Id.* at 11:1–20.

44. The improvements recited by the claims have no pre-electronic gaming analog. Indeed, the technical problems experienced by prior art systems did not exist prior to electronic gaming. *E.g.*, '473 Patent at 1:5–51 (describing various prior art solutions).

45. The '473 Patent claims are directed to inventive concepts that recite significantly more than any patent-ineligible, abstract idea. The '473 Patent claim limitations involve more than the performance of well-understood, routine, and conventional activities previously known to the industry. The embodiments described in the specification and provided by the claims require a specific combination of specially programmed hardware and software components, including, for example, a website server including a controller that is configured to facilitate data

communication with a first or second gaming server based on game selection data pertaining to a remote user. *E.g.*, '473 Patent at 1:55–2:29. Moreover, the use of such a system, for example, was a technical improvement over the prior art and not well-understood, routine, or conventional. *See, e.g., id.* at 1:5–51 (describing various prior art solutions).

46. Moreover, the ordered combination of claim elements is directed to an inventive concept and was not well-understood, routine, or conventional at the time of the invention, as recognized by the patent examiner in allowing the claims. *See generally* 8/7/2007 Notice of Allowance.

47. The claimed invention does not represent the mere application of a generic computer to any well-known method of organizing human behavior. Rather, the gaming industry is highly regulated to ensure fairness given the value of money being exchanged on a daily basis. To satisfy security and regulatory requirements in a gaming environment, hardware and/or software architectures are implemented in electronic gaming machines (EGMs) that differ significantly from those of general-purpose computing devices. Additionally, EGMs operate in much more harsh environments and have restrictive fault tolerance requirements as compared to general computing devices and are built differently with this in mind.

48. Dependent claims of the '473 Patent, such as claims 6, 7, 14, 15, 20, 21, 26, 34, and 35, further recite unconventional, technological advancements over the prior art. No single claim is representative of any other. For instance, claim 26 recites the website controller containing an additional computer program portion that determines whether a data communication received by one of the gaming computers was transmitted to the website by an authorized sender, which furthers a goal of ensuring network security in a distributed system.

E. The '064 Patent Recites a Specific, Technological Improvement, and Recites Inventive Concepts That Were Not Well Understood, Routine, or Conventional at the Time.

49. U.S. Patent No. 8,795,064 (“the ‘064 Patent”) is entitled “Method and apparatus for outputting a message at a game machine,” and is attached hereto as Exhibit E. ‘064 Patent at [54]. IGT US is the owner of all rights, title, and interest in the ‘064 Patent, which issued on August 5, 2014. *Id.* at [73], [45]. The ‘064 Patent was filed on November 19, 2012, and is a continuation from an application that claims priority to a provisional application filed on October 11, 2002. *Id.* at [22], [60]. The ‘064 Patent is not directed to an abstract idea, but rather, claims a technical solution necessarily rooted in computer technology in order to overcome a problem specifically arising in the realm of prior electronic gaming systems. Moreover, the claim limitations involve more than the performance of well-understood, routine, and conventional activities previously known to the industry.

50. The ‘064 Patent claims are directed to patent-eligible, non-abstract subject matter. In particular, at the time of the claimed invention, the variations of games and features could be overwhelming to players, and interactions were often limited, due to cost, to players who make large wagers or play frequently. While gameplay using a distributed system over the Internet allowed for more diverse player interactions, such systems also posed various technological problems. For example, at that time, prior gaming systems failed to provide accurate information to individual players at appropriate times, in a way that enhanced overall gaming experience, minimized interference with players’ gaming, and avoided any irritating “spam” effect. ‘064 Patent at 2:38–60, 3:53–5:39.

51. The claims address, among other things, such technical problems in prior gaming systems by providing specifically implemented technical solutions. For example, claim 9 recites:

9. A method of operating a gaming system, said method comprising:

- (a) causing at least one processor to execute a plurality of instructions to identify a player placing at least one wager on at least one play of a game,
- (b) causing the at least one processor to execute the plurality of instructions to track information associated with the identified player,
- (c) if a first set of information associated with the identified player is tracked and a message trigger condition occurs in association with the identified player:
 - (i) causing the at least one processor to execute the plurality of instructions to determine, based at least in part on the first set of tracked information, a first message, and
 - (ii) causing at least one output device to output the determined first message to the identified player, and
- (d) if a second, different set of information associated with the identified player is tracked and the message trigger condition occurs in association with the identified player:
 - (i) causing the at least one processor to execute the plurality of instructions to determine, based at least in part on the second set of tracked information, a second, different message, and
 - (ii) causing the at least one output device to output the determined second message to the identified player.

Id. at 76:32–58. More specifically, the claims improve accuracy and usability over prior electronic systems by reciting a centralized processor that (a) identifies a player placing at least one wager on at least one play of a game, (b) tracks first/second sets of information associated with that player, (c) determines if a message trigger condition occurs in association with that player, (d) determines a first/second message based on the first/second set of tracked information, and (e) causes an output device to output the first/second message. *Id.*

52. This technical improvement over the prior art is explicitly recited in the intrinsic record of the '064 Patent. For example, in allowing the claims, the examiner found that centrally monitored game play ensures that messages are “correctly offered when the trigger conditions are met based on game play.” 4/1/2014 Notice of Allowance at 3. The patent examiner also found that the invention, “as claimed,” is “advantageous over the prior art by accurately tracking game

play parameters ensuring that the correct messages are directed based on the actual game play parameters.” *Id.* This technical improvement “ensure[s] that the system is auditable and that marketing and promotions are accurately targeted to the correct audience.” *Id.*

53. The specification also describes claimed technical improvements. For example, the patent provides:

The present invention provides systems and methods useful to selectively output helpful and desirable messages to players while minimizing interference with the player’s gaming and to avoid any irritating “spam” effect created by overwhelming players with unsolicited, unwanted, and/or irrelevant messages.

’064 Patent at 3:65–4:3.

54. The specification further describes the improved usability of the patented invention, which is conferred in real-time:

[I]nstructive messages may inform players about games and game machines which may allow players to improve their game play, increasing their chances of winning a jackpot, and facilitating their enjoyment of the gaming experience. The present invention may alleviate player frustration and/or confusion while operating a game machine. As a result, players may enjoy games more with a better understanding of the games.

Id. at 5:25–32; *see also id.* at 3:53–5:39.

55. The improvements recited by the claims have no pre-electronic gaming analog. Indeed, the technical problems experienced by prior art systems did not exist prior to electronic gaming. *E.g.*, ’064 Patent at 4:1–3 (describing the desire to “avoid any irritating ‘spam’ effect created by overwhelming players with unsolicited, unwanted, and/or irrelevant messages”). Moreover, the claimed technologies of the ’064 Patent cannot be performed as mental steps by a human, nor by a human using a pen and paper. *E.g.*, *id.* at 25:36–63 (describing messages and display feeds relating to third parties); *id.* at 76:32–58 (claiming centralized processor).

56. The '064 Patent claims are directed to inventive concepts that recite significantly more than any patent-ineligible, abstract idea. The '064 Patent claim limitations involve more than the performance of well-understood, routine, and conventional activities previously known to the industry. The embodiments described in the specification and provided by the claims require a specific combination of specially programmed hardware and software components, including for example, the central processor, which as recited in the claims, had advantages over the conventional systems at the time of the invention. *See* 4/1/2014 Notice of Allowance at 3. Moreover, the use of the same message trigger condition to trigger different messages based on different information tracked about a player was a technical improvement over the prior art and not well-understood, routine, or conventional. For example, instead of having unique trigger conditions that may trigger at the same time and thus display different messages at the same time, which would interfere with or overwhelm a player, the use of the same trigger condition would act to limit the number of messages being presented to the player at the same time such as by, for example, prioritizing or determining an order of messages because the messages were both triggered by the same trigger condition, including though the use of a message queue. '064 Patent at 4:58–63, 10:28–30, 21:6–8 & 26–33, 50:11–32.

57. Moreover, the ordered combination of claim elements is directed to an inventive concept and was not well-understood, routine, or conventional at the time of the invention, as recognized by the patent examiner in allowing the claims. 4/1/2014 Notice of Allowance at 3 (finding that the invention “as claimed” is “advantageous over the prior art”).

58. The claimed invention does not represent the mere application of a generic computer to any well-known method of organizing human behavior. Rather, the gaming industry is highly regulated to ensure fairness given the value of money being exchanged on a daily basis.

To satisfy security and regulatory requirements in a gaming environment, hardware and/or software architectures are implemented in electronic gaming machines (EGMs) that differ significantly from those of general-purpose computing devices. Additionally, EGMs operate in much more harsh environments and have restrictive fault tolerance requirements as compared to general computing devices and are built differently with this in mind.

59. Dependent claims of the '064 Patent further recite unconventional, technological advancements over the prior art. No single claim is representative of any other. For example, claims 10, 11, and 12 specify, respectively, the actions triggering a message trigger condition, the types of messages sent, and the types of tracked information used to trigger the message, which furthers the goal of improving accuracy by providing relevant information at appropriate times and in response to appropriate events. Claim 13 provides for “causing the at least one output device to output, in a partition including a pop-up window, one of: (i) the determined first message, and (ii) the determined second message.” '064 Patent at 76:59–77:18. These additional claims are further directed to allowing gaming entities to overcome the drawbacks of prior art systems by, for instance, enhancing overall player gaming experience, minimizing interference during gaming, and avoiding irritating “spam” effects.

F. The '212 Patent Recites a Specific, Technology Improvement, and Recites Inventive Concepts That Were Not Well Understood, Routine, or Conventional at the Time.

60. U.S. Patent No. 8,266,212 (“the '212 Patent”) is entitled “Game talk service bus,” and is attached hereto as Exhibit F. '212 Patent at [54]. IGT is the owner of all rights, title, and interest in the '212 Patent, which issued on September 11, 2012. *Id.* at [73], [45]. The '212 Patent was filed on August 21, 2007, and is a continuation-in-part from an application that claims priority to a provisional application filed on November 23, 2001. *Id.* at [22], [63], [60]. The '212 Patent is not directed to an abstract idea, but rather, claims a technical solution necessarily rooted in

computer technology in order to overcome a problem specifically arising in the realm of prior electronic gaming systems. Moreover, the claim limitations involve more than the performance of well-understood, routine, and conventional activities previously known to the industry.

61. The '212 Patent claims are directed to patent-eligible, non-abstract subject matter. Specifically, the '212 Patent is directed to methods and systems for improving the way that gaming machines, servers, workstations, handheld devices, and other devices are controlled, monitored, and communicate over a network. For example, the game service bus of the '212 Patent provides a publish-and-subscribe message bus over a private network within a gaming property and/or over the public Internet across several properties. '212 Patent at Abstract. It allows “participating communicating end points to publish services or subscribe to services in a simple and standardized high level fashion, thereby enabling the devices to understand one-another, thus ‘talk’ together.” *Id.* This paradigm emphasizes the value that the service bus brings to a complex distributed system that may include thousands of devices manufactured by dozens of vendors. Gaming machines may talk together in a peer-fashion over the service bus. The service-oriented bus allows ultra-specialized vendors to offer “dazzling plug-in services.” *Id.*

62. In addition, the '212 Patent explains that one criticism of conventional gaming systems was that they used antiquated technology as a result of regulatory requirements. Although some advanced security means have been proposed for such systems, the approaches have exposed the systems to “latent unidentified security threats that hacker-crackers or employees will likely eventually exploit.” '212 Patent at 1:29–2:13. It was therefore an object of the patented invention to provide an architecture that overcomes the technical lag and lack of stability of the prior art and the rapid obsolescence of technology; to provide a flexible architecture that may more easily

accommodate the variety of requirements encountered around the world; and to provide specific function peripheral devices with means of efficient network communication. *Id.* at 2:21–32.

63. The claims of the '212 Patent describe and claim narrowly-tailored and specific concepts that were not well-understood, routine, or conventional at the time of its filing for overcoming the technological problems of the prior. The claims address, among other things, such technical problems in prior gaming systems by providing specifically implemented technical solutions. For example, claim 24 recites:

24. A method for distributed gaming over a communication bus, comprising:

providing a first gaming machine and coupling the first gaming machine to the communication bus;

publishing, by the first gaming machine, a first high-level function over the communication bus;

providing a node coupled to the communication bus;

receiving, from the node, a request to subscribe to the published first high-level function;

accepting the subscription request;

initiating a gaming session on the first gaming machine, and

responsive to updates occurring during the gaming session, providing call backs, by the first gaming machine, the call backs returning a result of the execution of the first high-level function to the node over the communication bus.

Id. at 23:23–59. Claims 24 and 31, for example, targets method-based solutions for providing distributed gaming over a communication bus. *Id.* at 29:45–61, 30:21–37. The methods involve gaming machines and/or nodes coupled to the communication bus that publish a first high-level function that may be used by devices from different vendors over the communication bus, and gaming machines and/or nodes coupled to the communication bus from which a request to subscribe to the published first high-level function are received. The subscription requests are

accepted, and gaming sessions are initiated on the gaming machines. Responsive to updates occurring during the gaming session, the method provides call backs, by the gaming machine or node, that return a result of the execution of the first high-level functions to the gaming machine or node over the communication bus. *Id.*

64. The specification further demonstrates that the inventors developed a specific technological solution to solve technological problems in the prior art. *E.g.*, '212 Patent at 6:50–27:35. The specification describes a distributed system with reference to FIG. 1, for example, including gaming system 100 that may include gaming machines 200, 300; gaming machines clusters 106 located in the same site or in geographically dispersed locations; Payment Verification Units 500 associated with each gaming machines cluster 106; and central server(s) 112 distributed over a network. *Id.* at 6:57–64. Abstract layers may be built using a protocol for providing a service oriented architecture, such as a game service bus that provides a publish-and-subscribe message bus. The service bus framework allows participating nodes to publish services or subscribe to services in a simple high-level fashion. *Id.* at 14:62–15:26. Such services may include, for example, business, audit, authentication, biometric identification, graphics rendering computation, and outcome determination services. The processing of the high-level software modules for providing the services may be carried out by central server(s) 112. *Id.* at 3:30–34, 11:44–48, 26:28–31. “Consequently, embodiments of the present invention provide an architecture that overcomes the technical lag, security limitations and lack of stability of the conventional gaming systems.” *Id.* at 27:32–35.

65. The improvements recited by the claims have no pre-electronic gaming analog. Indeed, the technical problems experienced by prior art systems did not exist prior to distributed networks. *E.g.*, '212 Patent at 1:29–32 (“Conventional pay entertainment and gaming systems,

either of the cash or the cash-less type, are seriously limited due to the technical choices that are typically made to comply with” requirements at the time). Moreover, the claimed technologies of the ’212 Patent cannot be performed as mental steps by a human, nor by a human using a pen and paper. *E.g., id.* at 29:45–61, 30:21–37 (claiming gaming machines and nodes coupled to a communication bus; publishing and receiving requests to subscribe to high level functions that may be used by different vendors; initiating gaming sessions on gaming machines; and providing call backs).

66. Dependent claims of the ’212 Patent further recite unconventional, technological advancements over the prior art. No single claim is representative of any other. For example, claims 27 and 34 specify that the high-level functions include a business function, an audit function, an authentication function, a biometric identification function, a graphics rendering computation function, and an outcome determination function, which furthers the goal of publishing services in a high-level fashion and enabling devices and servers on the bus to talk to each other. Other examples include claims 28 and 35, which also specify further limitations that aid in overcoming the shortcomings of distributed systems in the prior art. ’212 Patent at 30:6–13 & 46–53.

COUNT I

67. IGT realleges and incorporates by reference the foregoing allegations as though fully set forth herein.

68. U.S. Patent No. 8,708,791 (“the ’791 Patent”) is attached hereto as Exhibit A. The ’791 Patent is entitled “Detecting and preventing bots and cheating in online gaming.”

69. IGT US is the owner of all rights, title, and interest in the ’791 Patent, which issued on April 29, 2014.

70. The ’791 Patent is valid and enforceable.

71. In violation of at least 35 U.S.C. § 271(a), Zynga is liable for direct infringement of at least one claim of the '791 Patent, including without limitation claim 1, having made, used, sold, offered to sell, or imported into the United States, the Accused Instrumentalities, including, for example, its Zynga Poker offering, which satisfy each and every limitation of one or more claims of the '791 Patent. Zynga thereby directly infringed and infringes one or more claims of the '791 Patent.

72. Upon information and belief, in conjunction with the Accused Instrumentalities, Zynga infringed and infringes, for example, claims 1, 4, 5, 7, 8, and 13 of the '791 Patent, either literally or under the doctrine of equivalents.

73. For example, as to claim 1, though preambles generally are not limiting, Zynga performs “[a] gaming method in a gaming system having a plurality of host devices and at least one game server” comprising the steps described below. For example, the Accused Instrumentalities, including Zynga Poker, allow multiple players to participate in a game using their personal computers, mobile phones, and other personal devices. The Accused Instrumentalities connect the users to the server that hosts the game.

Weekly Fast Cash Events

Compete against other players worldwide in our weekly Fast Cash Events for a chance to win huge prizes!

<https://www.zynga.com/games/zynga-poker/> (last visited May 3, 2021).

74. Claim 1 further recites: “providing, by plurality of host devices and the at least one game server, an online wagering game[.]” Zynga, through its Accused Instrumentalities, including Zynga Poker, provides an online wagering game (e.g., Texas Hold ‘Em) using the players’ host

devices or internal Zynga devices used during development and testing, and the server hosting the game.

The world's most popular Poker game with more tables, more tournaments, and more people to challenge than ever before. It's Texas Hold 'Em Poker the way YOU want to play! Zynga Poker is the destination for casino fans and Poker players alike! If you play slots or blackjack, you'll feel right at home in our friendly Poker community!

Play across devices: iOS, Android, Facebook, and [zyngapoker.com](https://www.zynga.com/games/zynga-poker/)



<https://www.zynga.com/games/zynga-poker/> (last visited May 3, 2021).

75. Claim 1 further recites: “presenting, by plurality of host devices, game data required for participation in the online wagering game in a format that requires a human interface or the use of pattern recognition methods[.]” For example, while playing an Accused Instrumentality, such as Zynga Poker, the user is presented with playing card data, level information, wager information, and images of other players that are currently interfacing with that game session.



76. Claim 1 further recites: “gathering, by the plurality of host devices, game play data while players are using the plurality of host devices to play Internet wagering games[.]” The Accused Instrumentalities collect certain event and/or player information using, *inter alia*, hooks and cookies to record and track such information.

ZTrack, An Instrumentation Pipeline

Concurrently with scaling our data repository, we also began to build an instrumentation infrastructure, which we named ZTrack. The main idea of instrumentation is to put hooks in application code that record certain events such as installs, visits, messaging, and any other event that product managers, developers, or analysts deem necessary.

<https://medium.com/@kendallwillets/the-zynga-analytics-system-part-1-overview-39c80df694be>

(last visited May 3, 2021).

Zynga dedicates people to analyze and design experiments for every game. The tracking points have to be part of every new application they build. Zynga even developed a system called **ZTrack** to be able to track how users interact with the games.

<https://towardsdatascience.com/democratize-data-like-zynga-facebook-and-ebay-do-b15a7325c54a> (last visited May 3, 2021).

Collection and Use of Personal Information

When we use the term "personal information" in this Notice, we mean information that identifies, relates to, describes, is reasonably capable of being associated with, or could reasonably be linked, directly or indirectly, with a particular consumer or household.

In the last 12 months, we have collected the following about consumers for the following purposes.

Category of Personal Information	Categories of Sources
Identifiers , such as Account Name, Device ID, Email Address, IP Address, etc.	<ul style="list-style-type: none"> • Players • Players' Devices • Data Services • Service Providers

<https://www.zynga.com/privacy/ca-notice/> (last visited May 3, 2021).

Behavioral Cohorting

Zynga heavily utilizes cohort-based analysis. A *cohort* is any group of users isolated by something they have in common, whether that's game install date, age group, or location. At Zynga, product managers also grouped users by their actions or level of engagement with a specific feature, also known as **behavioral cohorting**.

<https://blog.amplitude.com/zynga-analytics-at-its-peak> (last visited May 3, 2021).

77. Claim 1 further recites: “analyzing, by the at least one game server, the game play data to determine individual players’ typical gaming styles and times of deviation from the typical gaming styles[.]” Zynga analyzes the collected data, for example, by “dedicat[ing] people to analyze and design experiments for every game” and by “track[ing] how users interact with the games.”

Zynga dedicates people to analyze and design experiments for every game. The tracking points have to be part of every new application they build. Zynga even developed a system called **ZTrack** to be able to track how users interact with the games.

[https://towardsdatascience.com/democratize-data-like-zynga-facebook-and-ebay-do-](https://towardsdatascience.com/democratize-data-like-zynga-facebook-and-ebay-do-b15a7325c54a)

[b15a7325c54a](https://towardsdatascience.com/democratize-data-like-zynga-facebook-and-ebay-do-b15a7325c54a) (last visited May 3, 2021). Additionally, Zynga monitors deviations from typical gaming styles, for example, by tracking and identifying instances of hacking, cheating, or violations of Zynga’s Terms of Service.

Zynga proactively tracks sites that host hacks, bots, and cheats and will take appropriate action if hacking, cheating, or violations of the **Terms of Service** can be positively identified. If you have any information about Zynga hacks, bots, and cheats, and the sites that host them, please report them to **Zynga Customer Support**.

<https://www.zynga.com/security/hacks-bots-and-cheats> (last visited May 3, 2021).

78. Claim 1 finally recites: “comparing, by the at least one game server, times of deviation from players’ typical gaming styles to determine instances of probable collusion between players.” Zynga monitors game play and user data to detect times of deviations from typical gaming styles to determine, *inter alia*, instances of possible collusion between players or other methods of cheating.

If more than one player use the same IP address at the same table, winning or losing chips with amounts outside of the standards according to poker statistics and algorithms will cause you to get caught by Zynga Security filters and your accounts to be monitored. You cannot notice that your account is being monitored. Automated systems made by Zynga take suspicious accounts to Admins for monitoring and approving. After review, the accounts can receive penalties such as TOS and BAN, or pass the review process and continue without any warning.

At Zynga Poker, two different players meeting at different tables constantly can cause accounts to be taken to Admins for a chip transfer examinations and approval. Apart from all these approval reviews, there are security systems that interfere with the hacker attacks that administrators are absolutely sure of. If hackers develop their own clients to manipulate the game and try to cheat by modifying the commands or imitations, in the slightest mistakes that they will make, Admins will detect them, fix the gaps and take the cheater accounts to be banned.

<https://www.pokerkedi.com/zynga-poker-cheaters.html> (last visited May 3, 2021).

Why was my account suspended?

Zynga is committed to maintaining a fair poker environment for all players. In order to maintain a safe platform, suspensions are issued by our security team when service violations are detected.

Outlined are the most common terms of service violations which result in suspension:

- Posting offensive or infringing content
- Verbally harassing, abusing or harming another person or group
- Participating in table collusion (team play)
- Conducting commercial activity (chip buying and/or selling)
- Using automation software or design cheats

Accounts found in violation of Zynga terms of service will not be reinstated. To refute a suspension, please contact us and supply your account id for review.

Last Updated: 6d • Permalink

<https://zyngasupport.helpshift.com/a/zynga-poker/?s=suspended-accounts&f=why-was-my-account-suspended> (last visited May 3, 2021).

Zynga proactively tracks sites that host hacks, bots, and cheats and will take appropriate action if hacking, cheating, or violations of the **Terms of Service** can be positively identified. If you have any information about Zynga hacks, bots, and cheats, and the sites that host them, please report them to **Zynga Customer Support**.

<https://www.zynga.com/security/hacks-bots-and-cheats> (last visited May 3, 2021).

79. Therefore, Zynga has directly infringed, and continues to directly infringe, one or more claims of the '791 Patent. Zynga has had actual knowledge of the patent and its infringement thereof at least as of service of the Complaint for Patent Infringement, D.I. 1. For example, Zynga admits that it “first became aware of” the '791 Patent “on or around April 6, 2021.” 4/4/2022 Zynga’s 1st Amend. Resp. to IGT’s Interrog. No. 11. Despite having knowledge of the patent and its infringement, Zynga continued and still continues to infringe at least one claim of the patent. Thus, Zynga is deliberately, intentionally, and willfully infringing the '791 Patent. As a direct result of Zynga’s infringing acts, IGT US has suffered and will continue to suffer damages and irreparable harm.

COUNT II

80. IGT realleges and incorporates by reference the foregoing allegations as though fully set forth herein.

81. U.S. Patent No. 9,159,189 (“the '189 Patent”) is attached hereto as Exhibit B. The '189 Patent is entitled “Mobile gaming device carrying out uninterrupted game despite communications link disruption.”

82. IGT Canada is the owner of all rights, title, and interest in the '189 Patent, which issued on October 13, 2015.

83. The '189 Patent is valid and enforceable.

84. In violation of at least 35 U.S.C. § 271(a), Zynga is liable for direct infringement of at least one claim of the '189 Patent, including without limitation claims 1 and 10, having made,

used, sold, offered to sell, or imported into the United States, the Accused Instrumentalities, including for example, its Mustang Money offering, which satisfy each and every limitation of one or more claims of the '189 Patent. Zynga thereby directly infringed and infringes one or more claims of the '189 Patent.

85. Upon information and belief, in conjunction with the Accused Instrumentalities, Zynga infringed and infringes, for example, claims 1, 4–8, 10, and 13–17 of the '189 Patent, either literally or under the doctrine of equivalents.

86. For example, as to claim 1, though preambles generally are not limiting, Zynga performs “[a] remote gaming method” comprising the steps described below.

87. Claim 1 recites: “establishing a wireless communications link between a mobile gaming device, operated by a player, and a stationary gaming terminal that carries out a gaming program[.]” Zynga, when providing its Accused Instrumentalities, including Mustang Money, establishes a wireless communications link between a user’s mobile gaming device and a server in order to carry out the chosen game.

88. Claim 1 further recites: “receiving player control signals by the gaming terminal from the mobile gaming device to initiate a game; displaying game animation on the mobile gaming device for the game conveying to the player that the game is presently occurring; carrying out the game by the gaming terminal, including determining a final outcome of the game and any award for the outcome; transmitting signals from the gaming terminal to the mobile gaming device identifying the final outcome of the game and the award; stopping the game animation for the game and displaying, by the mobile gaming device, the final outcome of the game and the award[.]” As shown below, Zynga’s Mustang Money, for example, enables a user to play Mustang Money on a mobile device while the user’s control signals are received by a server. The game

then displays the game animation on the mobile device. The Zynga server carries out the game, including determining an outcome and any award. At the end of the game, the animation stops (e.g., the reels in Mustang Money stop), and the final outcome is displayed.



Screenshots of Mustang Money.

89. Claim 1 further recites: “in the event of a communications link failure between the mobile gaming device and the gaming terminal during the game, prior to receiving the signals by the mobile gaming device identifying the final outcome of the game and the award but after the game animation for the game has begun, performing the method comprising[.]” In the event of a communications link failure, the Accused Instrumentalities perform the steps described below.

90. Claim 1 further recites: “extending the game animation for the game by the mobile gaming device during the communications link failure beyond a typical time for the game until the communications link has been re-established[.]” In the event of an interruption (e.g., an interruption in a user’s Wi-Fi connection), the Accused Instrumentalities extend a game animation

during the interruption. In Mustang Money, for example, the animated reels continue to spin during a communications link failure.

91. Claim 1 further recites: “once the communication link has been re-established, transmitting the signals to the mobile gaming device identifying the final outcome of the game and the award, stopping the game animation for the game, and displaying, by the mobile gaming device, the final outcome of the game and the award, such that the game perceived by the player is not interrupted during the communications link failure.” Once the communications link is restored (e.g., restoration of the user’s Wi-Fi connection), the animation is stopped and the final outcome of the game including any award is displayed on the screen. In Mustang Money, for example, upon restoration of a communications link failure, the animated reels cease spinning and the outcome and any score resulting from the user’s gameplay is displayed.

92. Upon information and belief, in conjunction with its Accused Instrumentalities, Zynga infringed and infringes, for example, claim 10 of the ’189 Patent, either literally or under the doctrine of equivalents.

93. Though preambles generally are not limiting, Zynga’s Accused Instrumentalities comprise “a gaming system comprising a stationary gaming terminal communicating with a mobile gaming device, the system being programmed to carry out the method comprising” the limitations similar to those recited in claim 1. For example, the Accused Instrumentalities include a gaming system. The gaming system allows users and subscribers to play Zynga’s game offerings, including Mustang Money. The system comprises one or more Zynga servers that hosts the information and data for allowing end users and subscribers to play the Zynga game offerings, including Mustang Money. The Zynga servers may communicate with users’ or subscribers’ computers or mobile devices for playing Zynga game offerings, including Mustang Money.

Further, Zynga's gaming system is programmed to carry out the steps recited in claim 10, which are similar to the steps recited in claim 1 of the '189 Patent, as described above with respect to the allegations set forth for claim 1.

94. Therefore, Zynga has directly infringed, and continues to directly infringe, one or more claims of the '189 Patent.

95. In violation of 35 U.S.C. § 271(b), Zynga induced and continues to induce infringement literally and/or under the doctrine of equivalents of at least one claim of the '189 Patent, including without limitation claim 10, by providing third parties with the Accused Instrumentalities along with instructions for use that, when followed in an intended manner and in a normal mode of operation, Zynga knows infringes at least one claim of the '189 Patent. For example, Zynga has induced and continues to induce infringement by third parties, such as end users and subscribers of Zynga's Accused Instrumentalities. When end users or subscribers play Zynga's Mustang Money offering, for example, they use the "gaming system comprising a stationary gaming terminal communicating with a mobile gaming device" recited in claim 10 of the '189 Patent, i.e., they put the system into service by controlling the invention as a whole and obtaining benefit from it, in accordance with the allegations set forth above. On information and belief, such end users and subscribers include, for example, individuals located in this District and Division. By providing users with the Accused Instrumentalities and instructions for use, Zynga specifically intends for users to infringe at least one claim of the '189 Patent.

96. In violation of 35 U.S.C. § 271(c), Zynga contributed and continues to contribute to infringement literally and/or under the doctrine of equivalents of at least one claim of the '189 Patent, including without limitation claim 10, by selling or offering to sell the Accused Instrumentalities. Upon information and belief, the Accused Instrumentalities constitute a material

part of the inventions claimed in the '189 Patent and Zynga has knowledge that the Accused Instrumentalities are especially made or adapted for use in the infringement of at least one claim of the '189 Patent. Upon information and belief, the Accused Instrumentalities are not staple articles or commodities of commerce suitable for substantial noninfringing use. Zynga's actions have contributed and continue to contribute to infringement by third parties, such as end users and subscribers of Zynga's Accused Instrumentalities. On information and belief, such end users and subscribers include individuals located in this District and Division.

97. In violation of 35 U.S.C. § 271(f)(1), Zynga induced and continues to induce infringement literally and/or under the doctrine of equivalents of at least one claim of the '189 Patent, including without limitation claim 10, by supplying the Accused Instrumentalities or causing the Accused Instrumentalities to be supplied in or from the United States. *See, e.g.,* www.zynga.com (last visited May 3, 2021) ("Zynga is a leading developer of the world's most popular social games that are played by millions of people around the world each day."). Upon information and belief, the Accused Instrumentalities constitute all or a substantial portion of the devices claimed in the '189 Patent. Upon information and belief, the Accused Instrumentalities are uncombined in whole or part, in such a manner as to actively encourage their combination outside of the United States in a manner that would infringe at least one claim of the '189 Patent if such combination occurred within the United States.

98. In violation of 35 U.S.C. § 271(f)(2), Zynga contributed and continues to contribute to infringement literally and/or under the doctrine of equivalents of at least one claim of the '189 Patent, including without limitation claim 10, by supplying the Accused Instrumentalities or causing the Accused Instrumentalities to be supplied in or from the United States. *See, e.g.,* www.zynga.com (last visited May 3, 2021) ("Zynga is a leading developer of the world's most

popular social games that are played by millions of people around the world each day.”). Upon information and belief, the Accused Instrumentalities are especially made or especially adapted for use in the devices claimed in the ’189 Patent. Upon information and belief, the Accused Instrumentalities are not staple articles or commodities of commerce suitable for substantial noninfringing use. Upon information and belief, the Accused Instrumentalities are uncombined in whole or in part, in a manner that would infringe at least one claim of the ’189 Patent if such combination occurred within the United States. Upon information and belief, Zynga knows that the Accused Instrumentalities are made or adapted in this manner and intends for them to be combined outside of the United States in a manner that would infringe at least one claim of the ’189 Patent.

99. Therefore, Zynga has directly infringed, and continues to directly infringe, one or more claims of the ’189 Patent. Zynga has had actual knowledge of the patent and its infringement thereof at least as of service of the Complaint for Patent Infringement, D.I. 1. For example, Zynga admits that it “first became aware of” the ’189 Patent “on or around April 6, 2021.” 4/4/2022 Zynga’s 1st Amend. Resp. to IGT’s Interrog. No. 11. Despite having knowledge of the patent and its infringement, Zynga continued and still continues to infringe at least one claim of the patent. Thus, Zynga is deliberately, intentionally, and willfully infringing the ’189 Patent. As a direct result of Zynga’s infringing acts, IGT Canada has suffered and will continue to suffer damages and irreparable harm.

COUNT III

100. IGT realleges and incorporates by reference the foregoing allegations as though fully set forth herein.

101. U.S. Patent No. 7,168,089 (“the ’089 Patent”) is attached hereto as Exhibit C. The ’089 Patent is entitled “Secured virtual network in a gaming environment.”

102. IGT US is the owner of all rights, title, and interest in the '089 Patent, which issued on January 23, 2007.

103. The '089 Patent is valid and enforceable.

104. In violation of at least 35 U.S.C. § 271(a), Zynga is liable for direct infringement of at least one claim of the '089 Patent, including without limitation claim 84, having made, used, sold, offered to sell, or imported into the United States, the Accused Instrumentalities, including, for example, its Zynga Poker offering, which satisfy each and every limitation of one or more claims of the '089 Patent. Zynga thereby directly infringed and infringes one or more claims of the '089 Patent.

105. Upon information and belief, in conjunction with the Accused Instrumentalities, Zynga infringed and infringes, for example, claims 28–29, 31–33, 47–50, 84–86, 89–92, 99, and 100 of the '089 Patent, either literally or under the doctrine of equivalents.

106. For example, as to claim 84, though preambles generally are not limiting, Zynga performs, “[i]n a first gaming device, a method of transferring gaming software to a second gaming device” comprising the steps described below. For example, the Accused Instrumentalities, including Zynga Poker, are offered via a game server to a client gaming device. Transferring gaming software is demonstrated at least by using cookies and other technologies to play across multiple devices as the same user.

The world's most popular Poker game with more tables, more tournaments, and more people to challenge than ever before. It's Texas Hold 'Em Poker the way YOU want to play! Zynga Poker is the destination for casino fans and Poker players alike! If you play slots or blackjack, you'll feel right at home in our friendly Poker community!

Play across devices: iOS, Android, Facebook, and zyngapoker.com

<https://www.zynga.com/games/zynga-poker/> (last visited May 3, 2021). Additionally, for example, gaming software for Zynga Poker is transferred and loaded when accessed from a client device.



<https://www.zyngapoker.com/> (last visited May 3, 2021).

107. Claim 84 further recites: “receiving a gaming software transaction request from the second gaming device[.]” When “Play Now” is actuated at the second gaming device, for example, a request is sent from the second gaming device and is received by the first gaming device. By proceeding with actuating the “Play Now” button, the second gaming device user has agreed on the “Privacy Policy,” which states that the gaming software, including player tracking services, may be transferred to a second gaming device.

108. Claim 84 further recites: “sending the gaming software transaction request to a gaming software authorization agent that approves or rejects the transfer of gaming software[.]” Zynga denies service to players who were previously banned. Thus, upon information and belief, the Accused Instrumentalities include a gaming software authorization agent that receives the

gaming software transaction request and approves or rejects the transfer of gaming software to a second gaming device based upon whether the second gaming device is authorized to access the gaming software.

109. Claim 84 further recites: “receiving an authorization message from the gaming software authorization agent wherein the authorization message includes information indicating whether the first gaming device is authorized to transfer the game software to the second gaming device[.]” Upon information and belief, the second gaming device receives a negative message if a player is banned or otherwise is unauthorized to receive the gaming software. Conversely, if the player is not banned and is otherwise authorized to receive the gaming software, the user may start playing the game after the gaming software is transferred to the second gaming device.

110. Claim 84 further recites: “transferring the gaming software to the second gaming device.” Zynga transfers gaming software (e.g., cookies, beacons, pixel tags, etc.) for player tracking, meaning the gaming software follows users between devices, including first and second gaming devices.

111. Therefore, Zynga has directly infringed, and continues to directly infringe, one or more claims of the '089 Patent. Zynga has had actual knowledge of the patent and its infringement thereof at least since April 12, 2013 as a result of Zynga's involvement in Interference No. 105,747; or at least since September 25, 2020, when IGT advised Zynga by letter of the patent and its infringement; or at least since the date of service of the Complaint for Patent Infringement, D.I. 1. For example, Zynga admits that it “first became aware of” the '089 Patent “in or around February 2013.” 4/4/2022 Zynga's 1st Amend. Resp. to IGT's Interrog. No. 11. Despite having knowledge of the patent and its infringement, Zynga continued and still continues to infringe at least one claim of the patent. Thus, Zynga is deliberately, intentionally, and willfully infringing

the '089 Patent. As a direct result of Zynga's infringing acts, IGT US has suffered and will continue to suffer damages and irreparable harm.

COUNT IV

112. IGT realleges and incorporates by reference the foregoing allegations as though fully set forth herein.

113. U.S. Patent No. 7,303,473 ("the '473 Patent") is attached hereto as Exhibit D. The '473 Patent is entitled "Network gaming system."

114. IGT US is the owner of all rights, title, and interest in the '473 Patent, which issued on December 4, 2007.

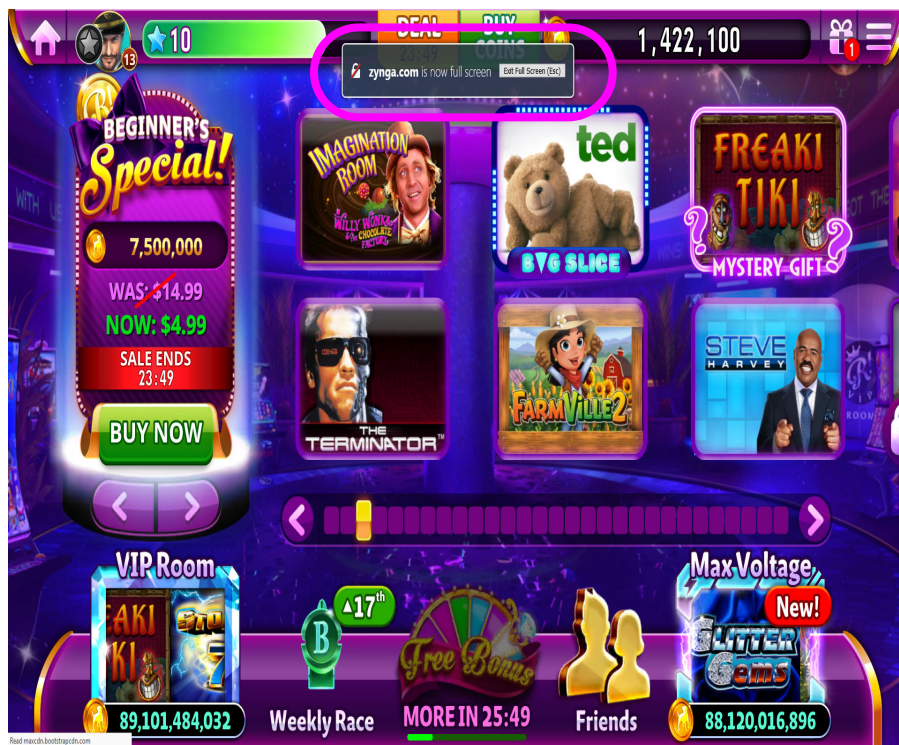
115. The '473 Patent is valid and enforceable.

116. In violation of at least 35 U.S.C. § 271(a), Zynga is liable for direct infringement of at least one claim of the '473 Patent, including without limitation claim 22, having made, used, sold, offered to sell, or imported into the United States, the Accused Instrumentalities, including, for example, Zynga's Hit It Rich offering, which satisfy each and every limitation of one or more claims of the '473 Patent. Zynga thereby directly infringed and infringes one or more claims of the '473 Patent.

117. Upon information and belief, in conjunction with the Accused Instrumentalities, Zynga infringed and infringes, for example, claims 1–4, 6–12, 14–18, 20–24, and 26–37 of the '473 Patent, either literally or under the doctrine of equivalents.

118. For example, as to claim 22, though preambles generally are not limiting, Zynga's Accused Instrumentalities include "[a] website controller that controls operation of a website[.]" For example, Zynga operates zynga.com, to which a user is connected when the user selects a game, including the Accused Instrumentalities, from a social media platform. In the game lobby, the user is connected to zynga.com. Websites, such as zynga.com, are managed by one or more

hardware and/or software web servers. Web servers respond to client requests through HTTP or other protocols and send code, such as HTML, JSON files etc., for execution or utilization on the browsers of client devices. Upon information and belief, there are multiple web servers owned by, operated by, or operated on behalf of Zynga to which users connect to play the Accused Instrumentalities, such as Hit It Rich. Accordingly, Zynga servers contain computer program code, including computer program code portions, that are executable to manage the Accused Instrumentalities, including Hit It Rich.



Screenshot from Game Lobby (indicating that the user is connected to zynga.com).

119. Claim 22 further recites: “said controller comprising: a processor; a memory operatively coupled to said processor[.]” Web servers typically include at least one processor and memory, which execute code to enable the functionality of the web server. Upon information and belief, Zynga servers include at least one processor and memory operatively coupled to a processor.

120. Claim 22 further recites: “a first computer program portion stored in said memory that causes data prompting a game selection to be made to be transmitted to a remote player device[.]” Upon selection of a Zynga offering, such as Hit It Rich, on a social media platform, a file, originating on a Zynga server, is sent to the user’s device to activate the selected game.

121. Claim 22 further recites: “a second computer program portion stored in said memory that causes game selection data representing a game selection that is received from said remote player device to be stored in memory[.]” Zynga servers contain computer code, including computer program code portions, that are executable to manage the Accused Instrumentalities, including Hit It Rich. When a user selects a game, the underlying code causes the user’s selection to be sent to the Zynga server(s) providing the game lobby. Zynga.com stores user information, such as game selections and statistics in player profiles. Upon information and belief, Zynga temporarily stores a user’s selection in memory in order to process the remaining game functionality, such as selecting and downloading the files necessary to play the selected game.

- your profile photo;
- your first and last name;
- your game username;
- your gender;
- your biographic details (like your age or age range);
- the approximate physical location information that you provide;
- links to your profiles on various social networks;
- details about the games you play; and/or
- a Zynga player ID that is created by Zynga and used to identify your game account (on Zyngagames.com, your Zynga player ID will appear in the URL of your profile page).

Screenshot from Zynga FAQ (detailing user information stored by the Hit It Rich offering).

122. Claim 22 further recites: “a third computer program portion stored in said memory that determines whether said data representing said game selection corresponds to said first game or said second game[.]” Based on the user’s selection, the Zynga server(s) enable the user device to connect to one or more content provider servers that provide corresponding gaming files to the

user device allowing the user device to execute the selected game. Zynga server(s) receive the user's game selection and ascertain the game the user selected.

123. Claim 22 further recites: "a fourth computer program portion stored in said memory that determines whether to select a first gaming computer or a second gaming computer based on said game selection received from said remote player device[.]" Upon information and belief, the code for execution of a GET command, for example, is received by the user's device from the Zynga server after the user selects a particular game. For example, if the user selects the game "Terminator," the Zynga server receives the user's selection and sends the corresponding code for the GET command to the user. The user device then connects to the corresponding content server(s) to receive the file bundles for "Terminator." To send the appropriate code for the GET command, the Zynga server would have to identify and select the particular content servers for inclusion in the GET command. Thus, the "determining" step is performed in response to the user's game selection.

124. Claim 22 further recites: "a fifth computer program portion stored in said memory that facilitates data communication between said remote player device and said first gaming computer that facilitates play of said first game if said game selection data specifies said first game[.]" The Zynga server(s) send the user's device the data used to execute the GET command. Therefore, Zynga server(s) are programmed to facilitate the sending of the bundles to the user device and further include a computer code portion to perform this function. The bundles include data that allows a user to play a selected slot game. Such data may include, but is not limited to, display data and/or pay tables. Display data is used to configure the user's screen for the particular game. Communication of the display data between the user's device and the content servers facilitates game play.

125. Claim 22 further recites: “a sixth computer program portion stored in said memory that facilitates data communication between said remote player device and said second gaming computer that facilitates play of said second game if said game selection data specifies said second game.” The sixth computer program portion mirrors the fifth computer program portion but for the selection of the second game.

126. Therefore, Zynga has directly infringed, and continues to directly infringe, one or more claims of the '473 Patent.

127. In violation of 35 U.S.C. § 271(b), Zynga induced and continues to induce infringement literally and/or under the doctrine of equivalents of at least one claim of the '473 Patent, including without limitation claim 22, by providing third parties with the Accused Instrumentalities along with instructions for use that, when followed in an intended manner and in a normal mode of operation, Zynga knows infringes at least one claim of the '473 Patent. For example, Zynga has induced and continues to induce infringement by third parties, such as end users and subscribers of Zynga's Accused Instrumentalities. When end users or subscribers play Zynga's Hit It Rich offering, for example, they use the “website controller that controls operation of a website” recited in claim 22 of the '473 Patent, i.e., they put the controller into service by controlling the invention as a whole and obtaining benefit from it, in accordance with the allegations set forth above. On information and belief, such end users and subscribers include, for example, individuals located in this District and Division. By providing users with the Accused Instrumentalities and instructions for use, Zynga specifically intends for users to infringe at least one claim of the '473 Patent.

128. In violation of 35 U.S.C. § 271(c), Zynga contributed and continues to contribute to infringement literally and/or under the doctrine of equivalents of at least one claim of the '473

Patent, including without limitation claim 22, by selling or offering to sell the Accused Instrumentalities. Upon information and belief, the Accused Instrumentalities constitute a material part of the inventions claimed in the '473 Patent and Zynga has knowledge that the Accused Instrumentalities are especially made or adapted for use in the infringement of at least one claim of the '473 Patent. Upon information and belief, the Accused Instrumentalities are not staple articles or commodities of commerce suitable for substantial noninfringing use. Zynga's actions have contributed and continue to contribute to infringement by third parties, such as end users and subscribers of Zynga's Accused Instrumentalities. On information and belief, such end users and subscribers include individuals located in this District and Division.

129. In violation of 35 U.S.C. § 271(f)(1), Zynga induced and continues to induce infringement literally and/or under the doctrine of equivalents of at least one claim of the '473 Patent, including without limitation claim 22, by supplying the Accused Instrumentalities or causing the Accused Instrumentalities to be supplied in or from the United States. *See, e.g.,* www.zynga.com (last visited May 3, 2021) ("Zynga is a leading developer of the world's most popular social games that are played by millions of people around the world each day."). Upon information and belief, the Accused Instrumentalities constitute all or a substantial portion of the devices claimed in the '473 Patent. Upon information and belief, the Accused Instrumentalities are uncombined in whole or part, in such a manner as to actively encourage their combination outside of the United States in a manner that would infringe at least one claim of the '473 Patent if such combination occurred within the United States.

130. In violation of 35 U.S.C. § 271(f)(2), Zynga contributed and continues to contribute to infringement literally and/or under the doctrine of equivalents of at least one claim of the '473 Patent, including without limitation claim 22, by supplying the Accused Instrumentalities or

causing the Accused Instrumentalities to be supplied in or from the United States. *See, e.g.,* www.zynga.com (last visited May 3, 2021) (“Zynga is a leading developer of the world’s most popular social games that are played by millions of people around the world each day.”). Upon information and belief, the Accused Instrumentalities are especially made or especially adapted for use in the devices claimed in the ’473 Patent. Upon information and belief, the Accused Instrumentalities are not staple articles or commodities of commerce suitable for substantial noninfringing use. Upon information and belief, the Accused Instrumentalities are uncombined in whole or in part, in a manner that would infringe at least one claim of the ’473 Patent if such combination occurred within the United States. Upon information and belief, Zynga knows that the Accused Instrumentalities are made or adapted in this manner and intends for them to be combined outside of the United States in a manner that would infringe at least one claim of the ’473 Patent.

131. Therefore, Zynga has directly infringed, and continues to directly infringe, one or more claims of the ’473 Patent. Zynga has had actual knowledge of the patent and its infringement at least since September 25, 2020, when IGT advised Zynga by letter of the patent and its infringement, or at least since the date of service of the Complaint for Patent Infringement, D.I. 1. For example, Zynga admits that it “first became aware of” the ’473 Patent “on or around September 25, 2020.” 4/4/2022 Zynga’s 1st Amend. Resp. to IGT’s Interrog. No. 11. Despite having knowledge of the patent and its infringement, Zynga continued and still continues to infringe at least one claim of the patent. Thus, Zynga is deliberately, intentionally, and willfully infringing the ’473 Patent. As a direct result of Zynga’s infringing acts, IGT US has suffered and will continue to suffer damages and irreparable harm.

COUNT V

132. IGT realleges and incorporates by reference the foregoing allegations as though fully set forth herein.

133. U.S. Patent No. 8,795,064 (“the ’064 Patent”) is attached hereto as Exhibit E. The ’064 Patent is entitled “Method and apparatus for outputting a message at a game machine.”

134. IGT US is the owner of all rights, title, and interest in the ’064 Patent, which issued on August 5, 2014.

135. The ’064 Patent is valid and enforceable.

136. In violation of at least 35 U.S.C. § 271(a), Zynga is liable for direct infringement of at least one claim of the ’064 Patent, including without limitation claim 9, having made, used, sold, offered to sell, or imported into the United States, the Accused Instrumentalities, including, for example, its spin slot machine games, which satisfy each and every limitation of one or more claims of the ’064 Patent. Zynga thereby directly infringed and infringes one or more claims of the ’064 Patent.

137. Upon information and belief, in conjunction with the Accused Instrumentalities, Zynga infringed and infringes, for example, claims 9–13, and 17–18 of the ’064 Patent, either literally or under the doctrine of equivalents.

138. For example, as to claim 9, though preambles generally are not limiting, Zynga’s Accused Instrumentalities, including, for example, Zynga’s spin slot machine games, include “[a] method of operating a gaming system” comprising the steps below.

139. Claim 9 further recites: “causing at least one processor to execute a plurality of instructions to identify a player placing at least one wager on at least one play of a game[.]” Web servers typically include at least one processor configured to execute code to enable the functionality of the web server. Upon information and belief, Zynga servers include at least one

processor configured to execute code to play the Accused Instrumentalities, such as Zynga’s spin slot machine games. For example, the Accused Instrumentalities, including the spin slot machine games, allow users to place wagers and play games by clicking the “spin” button.

140. Claim 9 further recites: “causing the at least one processor to execute the plurality of instructions to track information associated with the identified player[.]” The Accused Instrumentalities collect information about players using, *inter alia*, hooks and cookies to gather information.

ZTrack, An Instrumentation Pipeline

Concurrently with scaling our data repository, we also began to build an instrumentation infrastructure, which we named ZTrack. The main idea of instrumentation is to put hooks in application code that record certain events such as installs, visits, messaging, and any other event that product managers, developers, or analysts deem necessary.

<https://medium.com/@kendallwillets/the-zynga-analytics-system-part-1-overview-39c80df694be>

(last visited May 3, 2021).

Zynga dedicates people to analyze and design experiments for every game. The tracking points have to be part of every new application they build. Zynga even developed a system called **ZTrack** to be able to track how users interact with the games.

[https://towardsdatascience.com/democratize-data-like-zynga-facebook-and-ebay-do-](https://towardsdatascience.com/democratize-data-like-zynga-facebook-and-ebay-do-b15a7325c54a)

[b15a7325c54a](https://towardsdatascience.com/democratize-data-like-zynga-facebook-and-ebay-do-b15a7325c54a) (last visited May 3, 2021).

Collection and Use of Personal Information

When we use the term "personal information" in this Notice, we mean information that identifies, relates to, describes, is reasonably capable of being associated with, or could reasonably be linked, directly or indirectly, with a particular consumer or household.

In the last 12 months, we have collected the following about consumers for the following purposes.

Category of Personal Information	Categories of Sources
Identifiers , such as Account Name, Device ID, Email Address, IP Address, etc.	<ul style="list-style-type: none"> • Players • Players' Devices • Data Services • Service Providers

<https://www.zynga.com/privacy/ca-notice/> (last visited May 3, 2021).

141. Claim 9 further recites: "if a first set of information associated with the identified player is tracked and a message trigger condition occurs in association with the identified player: (i) causing the at least one processor to execute the plurality of instructions to determine, based at least in part on the first set of tracked information, a message, and (ii) causing at least one output device to output the determined first message to the identified player[.]" For example, in Game of Thrones Slots, the at least one processor tracks player experience points. And, for example, at the end of a spin, the game presents a message indicating that the player has increased in level.

142. Claim 9 further recites: "if a second, different set of information associated with the identified player is tracked and the message trigger condition occurs in association with the identified player: (i) causing the at least one processor to execute the plurality of instructions to

determine, based at least in part on the second set of tracked information, a second, different message, and (ii) causing the at least one output device to output the determined second message to the identified player.” For example, in Game of Thrones Slots, the at least one processor tracks the player’s level. And, for example, at the end of a spin, the game presents a message indicating that the player has unlocked a new board.

143. Therefore, Zynga has directly infringed, and continues to directly infringe, one or more claims of the ’064 Patent. Zynga has had actual knowledge of the patent and its infringement thereof at least as of service of the Complaint for Patent Infringement, D.I. 1. For example, Zynga admits that it “first became aware of” the ’791 Patent “on or around April 6, 2021.” 4/4/2022 Zynga’s 1st Amend. Resp. to IGT’s Interrog. No. 11. Despite having knowledge of the patent and its infringement, Zynga continued and still continues to infringe at least one claim of the patent. Thus, Zynga is deliberately, intentionally, and willfully infringing the ’064 Patent. As a direct result of Zynga’s infringing acts, IGT US has suffered and will continue to suffer damages and irreparable harm.

COUNT VI

144. IGT realleges and incorporates by reference the foregoing allegations as though fully set forth herein.

145. U.S. Patent No. 8,266,212 (“the ’212 Patent”) is attached hereto as Exhibit F. The ’212 Patent is entitled “Game talk service bus.”

146. IGT US is the owner of all rights, title, and interest in the ’212 Patent, which issued on September 11, 2012.

147. The ’212 Patent is valid and enforceable.

148. In violation of at least 35 U.S.C. § 271(a), Zynga is liable for direct infringement of at least one claim of the ’212 Patent, including without limitation claim 24, having made, used,

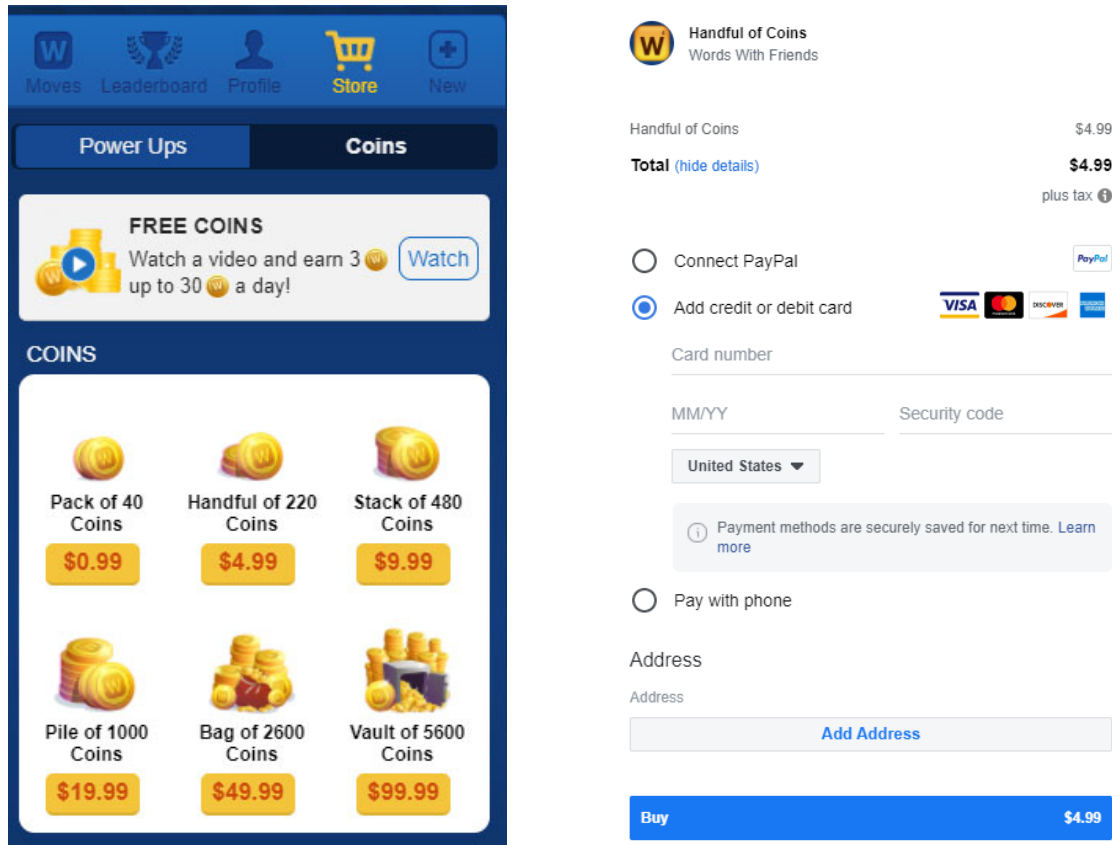
sold, offered to sell, or imported into the United States, the Accused Instrumentalities, such as Words With Friends, that satisfy each and every limitation of one or more claims of the '212 Patent. Zynga thereby directly infringed and infringes one or more claims of the '212 Patent.

149. Upon information and belief, in conjunction with the Accused Instrumentalities, Zynga infringed and infringes, for example, claims 24, 27, 28, 31, and 34–35 of the '212 Patent, either literally or under the doctrine of equivalents.

150. For example, as to claim 24, though preambles generally are not limiting, Zynga's Accused Instrumentalities include "[a] method for distributed gaming over a communication bus[.]" For example, Zynga allows the Accused Instrumentalities to be played via Zynga.com, mobile applications, and/or social media networking sites, all of which are played over the Internet.

151. Claim 24 further recites: "providing a first gaming machine and coupling the first gaming machine to the communication bus[.]" The Accused Instrumentalities are hosted on Zynga servers, which include a communication bus that allows the servers to connect to the Internet.

152. Claim 24 further recites: "publishing, by the first gaming machine, a first high-level function over the communication bus[.]" The Zynga servers hosting the Accused Instrumentalities, such as Words With Friends, employ billing/payment authorization functionality, for example, that Zynga publishes to the users of the Accused Instrumentalities.



Screenshots from Words With Friends.

153. Claim 24 further recites: “providing a node coupled to the communication bus[.]” The Accused Instrumentalities use a node coupled to the communication bus to, for example, authorize payments for in-game virtual items.

154. Claim 24 further recites: “receiving, from the node, a request to subscribe to the published first high-level function[.]” When a user selects the option to purchase a virtual item in the Accused Instrumentalities, such as coins in Words With Friends, for example, the request is received from the node over the communication bus.

155. Claim 24 further recites: “accepting the subscription request[.]” Once received, the Zynga server accepts the subscription request and authorizes the purchase of virtual items.

156. Claim 24 further recites: “initiating a gaming session on the first gaming machine[.]” In the Accused Instrumentalities, including Words With Friends, for example, after a

user makes a purchase, the Zynga server(s) initiate a gaming session to provide the user with the virtual items and allow the user to play Words With Friends games.

157. Claim 24 further recites: “responsive to updates occurring during the gaming session, providing call backs, by the first gaming machine, the call backs returning a result of the execution of the first high-level function to the node over the communication bus.” After purchasing the virtual items such as coins, a user’s gaming session is, for example, updated with the virtual items. Upon information and belief, the Zynga server(s) determine that a purchase was authorized via call backs to the node via the communication bus.

158. Therefore, Zynga has directly infringed, and continues to directly infringe, one or more claims of the ’212 Patent. Zynga has had actual knowledge of the patent and its infringement thereof at least as of service of the Complaint for Patent Infringement, D.I. 1. For example, Zynga admits that it “first became aware of” the ’212 Patent “on or around April 6, 2021.” 4/4/2022 Zynga’s 1st Amend. Resp. to IGT’s Interrog. No. 11. Despite having knowledge of the patent and its infringement, Zynga continued and still continues to infringe at least one claim of the patent. Thus, Zynga is deliberately, intentionally, and willfully infringing the ’212 Patent. As a direct result of Zynga’s infringing acts, IGT US has suffered and will continue to suffer damages and irreparable harm.

PRAYER FOR RELIEF

WHEREFORE, IGT respectfully requests that the Court enter a judgment in its favor and prays that the Court award IGT the following relief:

A. An entry of judgment that Zynga has infringed one or more claims of the Asserted Patents literally or under the doctrine of equivalents;

B. An award of damages to be paid by Zynga adequate to compensate IGT for Zynga's infringement of the Asserted Patents;

C. A finding that Zynga has willfully infringed and is willfully infringing one or more claims of the Asserted Patents, and awarding treble damages due to Zynga's deliberate and willful conduct;

D. A declaration that this case is exceptional under 35 U.S.C. § 285, and an award of IGT's reasonable attorneys' fees;

E. An award of prejudgment and post-judgment interest on all sums awarded as well as costs;

F. A post-verdict and post-judgment account for infringement of any of the Asserted Patents not otherwise covered by a damages award and the requested injunctive relief;

G. The entry of a permanent injunction, pursuant to 35 U.S.C. § 283, enjoining Zynga and its agents, servants, officers, directors, employees, affiliated entities, and all persons in active concert or participation with them from continued infringement of any of the Asserted Patents; and

H. An award to IGT of such further relief at law or in equity as the Court deems just and proper.

JURY DEMAND

Pursuant to Rule 38(b) of the Federal Rules of Civil Procedure and the Seventh Amendment to the Constitution of the United States, IGT respectfully requests a trial by jury on all issues raised in this action for which a trial by jury is available under applicable law.

Dated: April 26, 2021

Respectfully submitted,

/s/ Deron R. Dacus

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